COST ESTIMATION

Cost estimation is the process of predicting the financial investment needed for a project, encompassing labor, materials, and other resources, crucial for effective budgeting and decision-making in project management.

Cost estimation in project management can be approached from two main perspectives: top-down and bottom-up.

Top-Down Estimation:

Definition: This approach involves estimating the cost of the project as a whole and then breaking it down into smaller components.

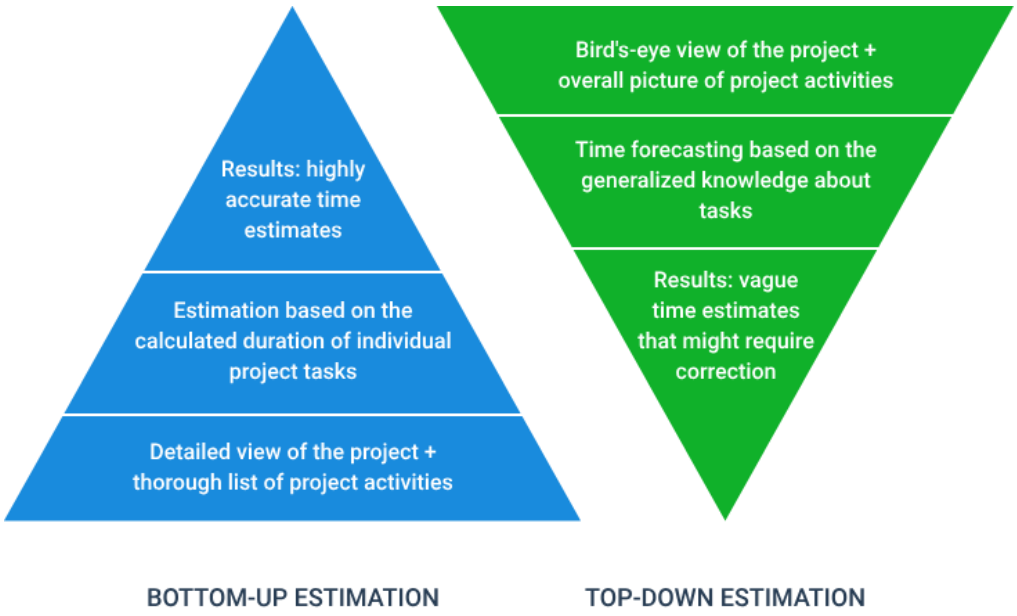
Advantages:

- Minimised risk. One benefit of the top-down strategy is that it can pose a minimal risk when decision making.
- Efficiency. The top-down management style is also an efficient means of organisation.
- Increased organisation.
- Cost-effective.

- Greater respect for authority figures.

Disadvantages:

- Inflexible to change.
- Limited to pre-determined solutions.
- Can lead to missed opportunities or inefficiencies.
- Can result in lower motivation and participation from lower-level employees.


Results: highly accurate time estimates
Estimation based on the calculated duration of individual project tasks
Detailed view of the project + thorough list of project activities
BOTTOM-UP ESTIMATION
Bird's-eye view of the project + overall picture of project activities
Time forecasting based on the generalized knowledge about tasks
Results: vague time estimates that might require correction
TOP-DOWN ESTIMATION

Bottom-Up Estimation:

Definition: This approach involves estimating the cost of individual project components and then aggregating them to get the total project cost.

Advantage :

- Improved employee trust.
- Greater collaboration.
- More synchronicity between managers and employees.

- Faster innovation.
- Fewer knowledge gaps.
- Faster risk identification.
- More diversity in knowledge and skills.
- Improved morale.

Disadvantages:

- Slow Progress: The bottom-up approach can be slow, as each component must be completed before moving on to the next.
- Lack of coherence: The final solution may lack coherence, as it is assembled from individual parts.

Types of estimates:

- **Preliminary cost estimation**

    1. used in the early phases of a project, usually before design documents have been completed.
    2. Project owners rely on preliminary estimates to help them have a rough estimate that helps them decide whether a project is financially feasible or not.
    3. They may use the preliminary estimate to determine how much financing they'll need or if they can afford the project with existing funds.

- **Detailed estimate**

1. A detailed estimate involves breaking down the project scope into smaller unit prices that can be priced individually.
2. It includes costs for the materials, equipment and labor required to complete the project.
3. The detailed estimate is based on completed design documents and how much labor will cost the contractor to provide.
4. It is often the basis of the contractor's initial building construction budget.

- **Quantity cost estimate**

1. A quantity estimate is based on the actual number of units or amount of work that needs to be provided.
2. The project is broken down into quantifiable pieces and all costs for each piece are added up to get the overall project estimate.

- **Bid cost estimate**

1. A bid estimate is the cost estimate that is submitted to a potential client in hopes of winning the job.
2. It will include all the contractor's costs for the project, plus allocated overhead costs and profit margin.

- **Control cost estimate**

1. A control estimate is used for monitoring the project during construction and is comprised of three separate estimates: the budget estimate for financing, the budgeted

cost after contracting but prior to construction, and the estimated cost to complete during the project.
2. These budgets are revised on a regular basis to reflect approved customer change orders and actual costs incurred.

Accuracy

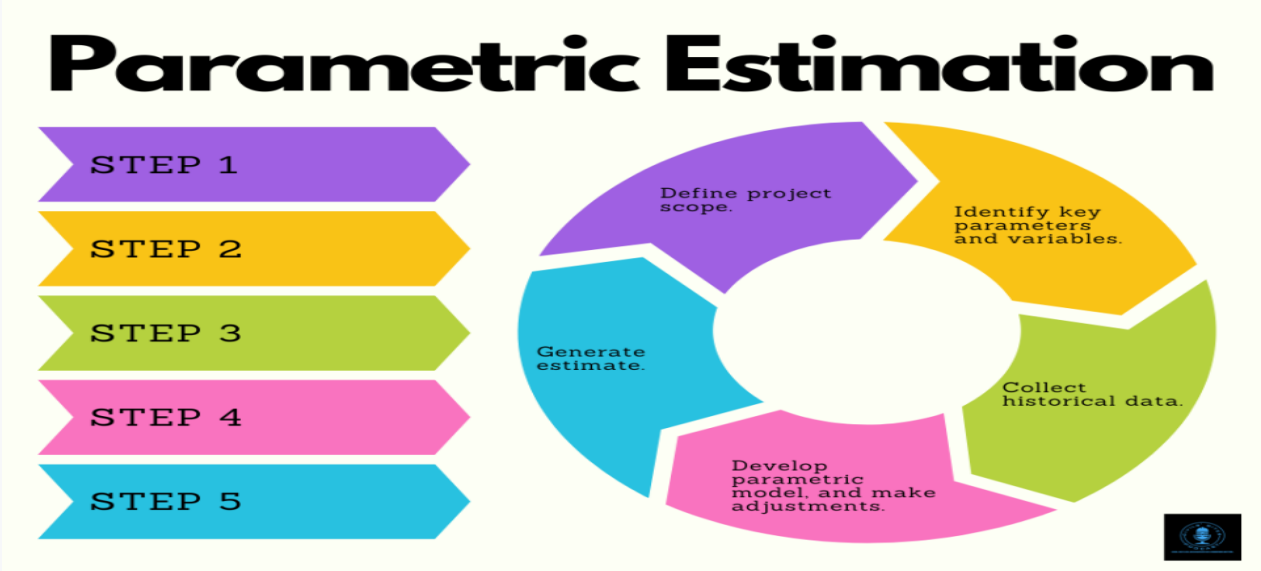
- Accuracy is the degree of closeness between an estimate and the actual cost of a project.
- Accuracy is influenced by the level of detail, the availability of information, the complexity of the project, and the experience and skill of the estimator.

Advantage :

Accurate cost estimates can help you to plan and manage your budget, resources, and schedule, as well as to communicate and negotiate with your clients, stakeholders, and contractors.

Disadvantages:

Inaccurate cost estimates can lead to cost overruns, delays, disputes, and loss of reputation.



Parametric estimating is quantitative and uses statistics to calculate the expected amount of resources needed to complete your project, whether it be cost or time, or even human resources.

Parametric budget estimating:

Parametric estimating applies a formula or algorithm to calculate the cost or time needed to implement and finish a whole project or specific task.

It uses historical and statistical data to deliver accurate estimations based on the relationship between variables.

STAKEHOLDER ENGAGEMENT

Stakeholder engagement is the process by which companies communicate and get to know their stakeholders.

4 Levels Of Stakeholder Engagement

i. Informing
ii. Consulting
iii. Involving
iv. Collaborating.

Managing Stakeholder's Expectations

- Identifying the Stakeholder.
- Choosing an Effective Communication Method.
- Giving Timely Updates.
- Meet the Set Expectations.
- Choose the Correct Communication Level.
- Map Strategy According to Blockers.
- Engage in Decision-Making.
- Manner of Project Delivery.

Basic Communication Tools

- Mail.
- Email.
- Telephones.
- SMS/Text Messaging.
- Cellular and Data Plans.
- Video and Web Conferencing.
- Social Networking Sites.
- Online Collaboration/Productivity Tools